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Potentially pathogenic free-living amoebae isolated from mucosal tissue of immunosuppressed patients in Iran

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Colonization of potentially pathogenic free-living amoebae in high risk people, including immunosuppressed patients could be a threat for developing fatal Acanthamoeba Granulomatose Encephalitis (AGE). The main aim of the present research was to determine the presence of potentially pathogenic free-living amoebae in mucosal tissue of immunosuppressed patients using morphological criteria in Tehran, Iran. Overall, 133 oral cavity samples were collected from immunosuppressed patients. Each sample was cultured on the Non-Nutrient Agar (NNA) with a layer of heat killed *Escherishia coli*. Positive plates were submitted to cloning for elimination of bacteria and fungi contamination. Purified plates were then examined for the presence of free living amoebae using page key. Of the 133 samples, 47 were positive for free living amoebae. All of 36 samples were cloned successfully. Interestingly, 35 plates contained *Acanthamoeba* spp. with flat shape trophozoites and double walled cyst with star shape endocysts. Five plates contained round small cysts with wormy shape trophozoites which attributed to *Hartmannella* and 6 plates contained giant amoeba called *Thecamoebae*. The presence of potentially pathogenic free living amoebae in mucosal tissue of immunosuppressed patients, including *Acanthamoeba* and *Hartmannella* could be a great risk for people with impaired immunity. Developing of Amoebae-related infections in such patient is probable and monitoring of these patients is crucial for preventing amoebae related infections.

Biography

Maryam Niyyati has completed her PhD from Tehran University of Medical Sciences and she has published more than 28 papers in reputed journals. She is now an Associate Professor of Shahid Beheshti University of Medical Sciences in Tehran, Iran. Her main interest is research regarding molecular detection of potentially pathogenic free living amoebae and pathogenic assays of such amoebae.

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